

### ABSTRACT

The present invention is directed to improved weight bearing elements and methods relating to same. Some such elements are contemplated as having a web, and a chord connected to the web, the chord perimeter having a cross-sectional shape of a closed multi-sided figure having at least 5 sides, at least two of which are substantially parallel to the web. Some members may have chords which have a pentagonal cross sectional shape, and/or may include load transferring members or end-caps. Other elements may comprise a stiffened rim band having die cut tabs and stiffening ribs. Some such elements comprise pairs of die cut tabs positioned along the length of the member at intervals which are a fraction of the distance used in standard joist positioning. Other elements comprise one or more pairs of die cut tabs positioned directly opposite each other such that one tab is adjacent the top of the rim band while the corresponding tab is adjacent the bottom of the rim band. Still other elements may comprise a diamond shape stiffener extruding from the back of the rim band and possibly formed by punching a slot into the back of the rim band and pushing the ends of the slot out from the back so as to form the diamond shape. In some embodiments, the weight bearing elements disclosed herein may be "roll-formed" from a continuous sheet of material such as light gauge galvanized steel. In other embodiments, they may exhibit one or more of the following feature: improved load bearing capacity; lighter weight; reduced material usage; easier to manufacture and/or install; able to be cut to custom lengths.